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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/065,858	11/26/2002	Rollie Richard Herzog	9D-20014	3381

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EXAMINER

PERRIN, JOSEPH L

ART UNIT PAPER NUMBER

1746

DATE MAILED: 08/08/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/065,858

Applicant(s)

HERZOG ET AL.

Examiner

Joseph L. Perrin, Ph.D.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 July 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5 and 7-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5 & 7-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 21 July 2005 has been entered.

Response to Arguments

2. In response to applicant's response filed 22 June 2005, the status of the application is as follows:

3. Applicant's arguments with respect to the rejection of claims 1-5, 7-9, 13-15, and 17 under 35 U.S.C. §102(e) over CHAMBERLIN have been fully considered but they are not persuasive. Applicant argues that CHAMBERLIN does not teach or suggest the newly added limitation of "the sensed speed is independent of oscillations of the agitation element and the basket". This is not persuasive because CHAMBERLIN is textually silent with respect of oscillation and is not construed to be "dependent" of oscillations. Thus, in the absence of such a teaching away the position is taken that CHAMBERLIN reads on applicant's claimed invention. Moreover, since there does not appear to be any significant difference between the structural components of the

sensing means for sensing drive shaft spin speed of applicant's disclosure and CHAMBERLIN, the position is taken that CHAMBERLIN inherently must also sense speed independent of oscillations of the agitation element and the basket.

4. Applicant's arguments with respect to the rejection of claims 10-12 & 16 under 35 U.S.C. §103(a) over CHAMBERLIN in view of HUANG have been fully considered but they are not persuasive. Applicant argues that HUANG teaches away from using a Hall effect sensor, apparently relying on the use of a Hall effect sensor as a point of novelty. This is not persuasive because a prior art reference must be considered in its entirety, i.e., as a whole, including portions that would lead away from the claimed invention. *W.L. Gore & Associates, Inc. v. Garlock, Inc.*, 721 F.2d 1540, 220 USPQ 303 (Fed. Cir. 1983), cert. denied, 469 U.S. 851 (1984). The prior art is replete with the conventional use of Hall effect sensors in sensing rotary speed of rotary motors, for instance a brushless DC motor, at applicant's time of invention. Specifically, HUANG discloses the conventional use of Hall effect sensors, stating that "[c]onventional commercial brushless DC motors use Hall-effect (magnetically operated) sensors" (col. 1, line 12 *et seq.*). Moreover, HUANG discloses a "virtual Hall sensor" or a modified Hall sensor with added benefits. The position is taken that it would be well within the knowledge of ordinary skill in view of the teachings of HUANG to provide a conventional brushless DC motor with a Hall effect sensor or a "virtual" Hall effect sensor to provide the well known advantages associated with such conventional sensing means. Furthermore, there would be a reasonable expectation of success in using the teachings of HUANG of applying such conventional sensing means to sense rotary speed in a rotary motor

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using a brushless DC motor, for instance, in an appliance such as a washing machine. Even if, *arguendo*, one were to construe HUANG as teaching away from using a Hall effect sensor, this does not negate the fact that HUANG provides a teaching of traditional Hall effect sensors as being conventional in sensing rotary speed of rotary motors in commercial brushless DC motors.

5. In response to applicant's argument that "Chamberlin and Huang teach away from their own combination", this is not persuasive for at least the reasons indicated above. Applicant's comparison of the spin speed sensor of Chamberlin and the conventional teaching of Hall effect sensors as a spin speed sensor of Huang is not understood with regard to a "teaching away" since both Chamberlin and Huang are directed to sensing spin speed in a rotary motor.

Claim Rejections - 35 USC § 112

6. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

7. Claims 1-5 & 7-18 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The limitation of "the sensed speed is independent of oscillations of the agitation element and the basket" (emphasis added) is

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not described in the original disclosure as filed. The original disclosure is textually silent with respect to such language.

8. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

9. Claims 1-5 & 7-18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In the independent claims, it is unclear how a the sensed spin speed of only one of the “at least one of the agitation element and the basket” can be independent of both the “agitation element and the basket”. Such language is confusing.

10. Claims 1-5 & 7-18 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential steps, such omission amounting to a gap between the steps. See MPEP § 2172.01. The omitted steps are: the cooperative relationship between the “sensing a spin speed” step and how such sensed spin speed may be “independent of oscillations of the agitation element and the basket”. In other words, the claims appear to be missing elements which cause a sensed spin speed to be independent of oscillations of the agitation element and the basket. Thus, such a limitation does not adequately distinguish another similar apparatus which senses a spin speed associated with at least one of the agitation element and the basket. Moreover, such language potentially raises the question of enablement.

Claim Rejections - 35 USC § 102

11. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

12. Claims 1-5, 7-9, 13-15 & 17-18 are rejected under 35 U.S.C. 102(e) as being anticipated by CHAMBERLIN. Re claims 1-2, 5 & 7-9, CHAMBERLIN discloses a washing machine lid locking control method including sensing a rotational spin speed of rotary shaft 25 and basket 22 and locking lid 20 when the speed is above a predetermined speed (col. 5, line 39 – col. 6, line 6), locking with a control circuit 64 by energizing a lid lock solenoid (actuator 120) and unlocking/deenergizing the lid lock when the speed falls below a predetermined speed (col. 5, lines 47-52; col. 6, lines 3-9). Re claims 3-4 & 13, CHAMBERLIN further discloses the washing machine having a drive shaft extending from a clutch system 28, at least one magnet (magnetizable counterweight 30, screws 31 and/or brake plate 34) and a sensor 60/70, and generating a voltage signal from a frequency signal from the sensor using a frequency to voltage converter (col. 5, lines 45-54) (see also Figure 2 and relative associated text). Re claims 14-15 & 17, CHAMBERLIN discloses the claimed washing machine structure (cited above).

Claim Rejections - 35 USC § 103

13. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

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14. Claims 10-12 & 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over CHAMBERLIN in view of HUANG or U.S. Patent No. 5,768,728 to HARWOOD *et al.* (hereinafter "HARWOOD"). Recitation of CHAMBERLIN is repeated here from above. Although CHAMBERLIN implicitly discloses "flip flop" circuitry (binary logic circuitry, col. 5, lines 47-52) and a timer (circuit 64 sensing signals over time, col. 4, lines 18-21), CHAMBERLIN does not expressly disclose a rotary drive speed sensing circuitry including a flip flop with a timer and a Hall sensor. HUANG teaches that it is known to provide a DC brushless motor (well known in the art as a conventional washing machine motor) with a Hall sensor and a flip flop to sense rotor position for advantages such as "increased reliability, wider temperature operating range, etc. in a cost effective manner, i.e. without having to replace the entire existing motor drive." (see, for instance, col. 2, lines 4-14 of Huang). HARWOOD teaches that it is conventional to use Hall sensors in detecting spin speed in washing machines (see, for instance, col. 5, lines 60-62). Therefore, it would be well within the knowledge of ordinary skill in view of the teachings of HUANG or HARWOOD to provide a conventional brushless DC motor with a Hall effect sensor or a "virtual" Hall effect sensor to provide the well-known advantages associated with such conventional sensing means. Furthermore, there would be a reasonable expectation of success in using the teachings of HUANG of applying such conventional sensing means to sense rotary speed in a rotary motor, for instance, in an appliance such as a washing machine since applicant has not disclosed that the use of a Hall effect sensor solves any stated problem or is for any particular purpose and it appears that the invention would perform

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equally well with various spin speed sensing means and the selection of any of these known equivalents to provide a spin speed of a rotary device would be within the level of ordinary skill in the art. Therefore, the position is taken that a person of ordinary skill in the art at the time the invention was made would have been motivated to modify the washing machine of CHAMBERLIN with the Hall sensor of HUANG for at least the aforementioned reasons.

Conclusion

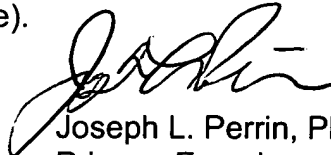
15. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure U.S. Patent No. 5,333,474 to IMAI *et al.* & U.S. Patent No. 5,208,931 to WILLIAMS *et al.*, which each disclose that it is conventional to provide a washing machine with Hall sensors for sensing spin speed.

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph L. Perrin, Ph.D. whose telephone number is (571)272-1305. The examiner can normally be reached on M-F 7:00-4:30, except alternate Fridays.

17. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael E. Barr can be reached on (571)272-1414. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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18. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Joseph L. Perrin, Ph.D.
Primary Examiner
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